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ECONOMY IN NATURE

BY P. A. RYDBERG

Rising "on stepping stones
Of their dead selves to higher things."

On Faitoute Avenue in New Orange, New Jersey, used to stand an old cherry tree, seven or eight feet in circumference. About seven feet from the ground it divided into two trunks. Just at the junction of the two there was a big hole, indicating that the tree was decayed and hollow. Nothing of peculiar interest about this tree was revealed, however, until the severe storm came in the spring of 1899, when one of the two trunks was torn down. The hollow trunk contained several bushels of cherry-pits and mulch, produced by decayed cherries and leaves. An adventitious root had sprung from the margin of the hole, ramified in this mass of decayed matter, and grown to the size of the thickness of one's wrist. Not satisfied, however, to feed only on old cherries and leaves, it had sent numerous branches into the decayed portion of the trunk, and the tree was actually feeding on itself, like the old wolf which, according to the fable, was eating its own frozen legs.

REVIEW

A "Flora of Vermont,* a list of the fern and seed-plants growing without cultivation," prepared by President Ezra Brainerd, Professor L. R. Jones and Mr. W. W. Eggleston, a committee of the Vermont Botanical Club, was issued in December, 1900. This list represents much careful and painstaking work on the part of the authors and their associates, involving a thorough-going revision of previously published lists of Vermont plants. The spirit in which the work has been conceived is revealed in the following words from the preface: "In every case where a name is admitted to the main list, there is an authenticated specimen deposited in one or more of the permanent herbaria of the state, or

* Brainerd, Jones and Eggleston. *Flora of Vermont, a list of fern- and seed-plants growing without cultivation.* 8vo. Pp. i-xii; 1-113. Burlington, 15 D. 1900. [Extracted from Twentieth Vermont Agricultural Report.]

in such other herbarium as is indicated in the accompanying note. The invariable rule has been to admit no name which has not an extant specimen back of it. This has necessarily led to the exclusion of a number of names of plants reported by earlier botanists. In many of these cases the evidence is such as to leave little doubt that the plants actually occurred as reported, and probably many of them will be rediscovered. The names of such plants are included in a supplementary list at the end of the main catalogue, and each name so appearing should be considered as a challenge to the sagacity of present botanists until the plant is again found." The main list includes a total of 1,563 species and varieties of Phanerogams and Pteridophytes. The Engler and Prantl sequence is adopted, but the nomenclature is essentially that of Gray's Manual and of the Kew Herbarium. Whatever may be our differences of opinion as to the claims of usage and expediency in nomenclatural matters (any appeal to ethical grounds being logically denied to us who accept an initial date for nomenclature), it certainly seems a violent perversion of botanical history to retain longer for one of our common ferns the generic name *Dicksonia*, a name, which, so far as the Pteridophytes are concerned, was first applied to two species of ferns so different from ours that now, by common consent, they are placed in an entirely different family. Even Sir William Jackson Hooker,* a prince of "conservatives," once wrote, "The name of *Dicksonia* surely, however, ought to be preserved to the original *D. arborescens* (*Balantium* Kaulf. * *)," and this position is maintained by Diels in the Engler and Prantl Pflanzenfamilien and by other modern writers. From an international standpoint, the attempts to preserve two *Dicksonias* in two different families of ferns are likely to prove a little confusing.

Those who have seen *Lycopodium Chamaecyparissus* growing side by side with *Lycopodium complanatum* and so distinct as to be readily distinguished at a distance of several feet and showing not the least tendency to intergrade will be very sceptical as to the propriety of considering it a variety of *L. complanatum*.

At the close of the work are shorter lists, representing the more important regional floras, in which we see an expression of the

* Hooker, W. J. Genera Filicum, pl. 61 A [text].

commendable and increasingly popular modern tendency to study plants particularly in relation to their surroundings. The pamphlet is attractively printed and is most fittingly dedicated to the well-known botanical collector, Mr. Cyrus G. Pringle. The Vermont Botanical Club is to be congratulated upon the enthusiasm and enterprise which have resulted in the publication at this time of such an important addition to the list of American local floras. [M. A. H.]

NEWS ITEMS

Professor Francis E. Lloyd, of the Teachers College, Columbia University, is soon to take a half year's leave of absence. He will spend the time in the laboratory of Professor Strasburger at Bonn.

The *Asa Gray Bulletin* and the *Plant World* have effected a consolidation, retaining the name of the latter. The place upon the editorial board which was to have been filled by the late Thomas A. Williams of the *Asa Gray Bulletin*, will be taken by Mr. Cornelius L. Shear.

Dr. William A. Murrill, whose valuable paper on "The Development of the Archegonium and Fertilization in the Hemlock Spruce (*Tsuga Canadensis* Carr.)," has recently appeared in the *Annals of Botany*, is now Instructor in Biology in the Boys' High School, New York City. Dr. Murrill received his degree from Cornell University.

The last annual meeting of the Society for Plant Morphology and Physiology was held at Baltimore, December 27th and 28th. The presidential address, entitled "A Decade of North American Palaeobotany," was given by Professor D. P. Penhallow, of McGill University. Among the papers presented were three by Dr. D. T. MacDougal, with the following titles: "Critical Points in the Relation of Light to Plants," "Propagation of *Lysimachia*," and "Germination of *Arisaema*." An account of "The Insular Flora of Mississippi and Louisiana," illustrated by lantern views, was given by Professor F. E. Lloyd. Dr. Erwin F. Smith was elected president for the ensuing year, and Professor W. F. Ganong, secretary-treasurer.